

ApplicationNum	171	Specify from cho	
Application for (Specify from (k)	
Principle Applic	Yuba, City of	Does Proposal in	<input type="checkbox"/>
Project Title	Water Metering Program		
First Name-Aut	William P.		
Last Name (AA)	Lewis		
Title	Utilities Director		
Street Address	302 Burns Dr.		
PO Box			
City	Yuba City		
State	Ca		
Zip Code	95991		
Telephone Num	(530) 822-46		
Fax Number (Inc	(530) 822-4		
E-mail Address	blewis@yubacity.net		
First Name-Con			
Last Name-CP			
Contact-Title			
Contact-Street			
Contact-PO Box			
Contact-City			
Contact-State			
Contact-Zip Cod			
Contact-Phone			
Contact-Fax Nu			
Contact-E-Mail			
Funds Requeste	\$1,620,000.00		
Applicant Funds	\$0.00		
Total Project Co	\$1,620,000.00		
Estimated Total	\$0.00		
Percentage of Be	100%		
Percentage of Be	0%		
Estimated Annu	1085		
Estimated Total	27100		

Over ____ Nu	25
Estimated Benef	Reduce surface water use
Duration of Proj	03/03-10/04
State Assembly	2
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Assembly	
State Senate Di	4
State Senate Di	
State Senate Di	
State Senate Di	
State Senate Di	
State Senate Di	
State Senate Di	
State Senate Di	
State Senate Di	
State Senate Di	
Congressional D	3
Congressional D	
Congressional D	
Congressional D	
Congressional D	
Congressional D	
Congressional D	
Congressional D	
Congressional D	
Congressional D	
Congressional D	
State-Wide	<input type="checkbox"/>
County-location	Sutter

Most recent Urb	3/1/2001
Type Applicant-	a) City
DWR WUE Proje	
Project Focus	b) Urban
Project Type	a) Implementation of Ur
Quantifiable Ob	0

Yuba City Groundwater Metering Program

Project Summary: For the past thirty years, the City of Yuba City has owned and operated a surface water treatment system for domestic water use. Per the 2000 Urban Water Management Report, as of December 2000 there were 9022 connections. At that time, over 95 percent of the 9022 accounts were metered and billed under a commodity rate. Yuba City has established a goal of 100 percent metered connections by the end of 2002. In May of 2001, Yuba City purchased an adjacent water company, Hillcrest Water Company. This system is supplied with groundwater and is primarily unmetered. The purpose of this project is to provide funding to institute a metering program for the approximately 3850 unmetered groundwater customers. During the year 2000, the groundwater customers averaged 0.94 acre feet per customer, while metered surface water customers averaged 0.56 acre feet per year. It is believed that a metering program with a commodity rate will reduce water consumption by 30 percent, or approximately 1085 acre-feet per year. The average lot sizes in the groundwater service area may be larger than in the surface water service area. It is not expected that the full 40 percent difference will be saved. The above information is based on the 2000 annual report submitted by Hillcrest Water Company to the Department of Health Services and the 2000 Yuba City Urban Water Management Plan.

Groundwater provided to the Yuba City groundwater customers is of lower quality than that provided to the surface water customers. The ground water is hard, high in iron and manganese, and several of the wells do not meet the newly imposed arsenic criteria. Several of the wells are high in nitrates, and one area recently was supplied water for several months that did not meet the nitrate standard. Yuba City is in the process of determining the feasibility of converting the groundwater customers to surface water supply. In order to most effectively utilize high quality surface water supply, it is imperative that a metering program be implemented.

In order to quickly implement the metering program, Yuba City would competitively bid the meter installation program to an outside contractor. Purchase of the meters would be competitively bid by Yuba City and provided to the installation contractor. Due to the large number of meters installed at one time and in close proximity of each other, it is recommended that radio read meters be purchased and installed.

A. Scope of Work: Relevance and importance Nature, scope and objective of the project

This project consists of converting approximately 3850 unmetered flat rate accounts to metered commodity rate water accounts. Currently, these customers

receive water at a flat rate with additional costs based on lot size and if applicable, a swimming pool surcharge. Based on information provided by Hillcrest Water Company to the Department of Health Services in annual reports, unmetered groundwater customers used 167 percent of the water used by metered surface water customers. There may be a difference in lot sizes between the groundwater and surface water customers, but not enough to account for the large discrepancy. Personal observations of the groundwater service areas indicate that there is a higher than required summer irrigation taking place.

Over 95 percent of the total accounts served by groundwater are residential customers. The project will consist of the installation of radio read meters on the water supply to unmetered customers in the groundwater service area.

B. Scope of Work: Technical/Scientific Merit, feasibility, monitoring and Assessment

Currently, water is metered at each well site. Historical information is available to determine baseline water consumption. After the individual customer water meters are installed, a comparison can be made as to total water consumption and the resultant savings. Yuba City has a computerized billing system that can track metered water usage by customer category, meter size, location or several other reporting methods.

The following schedule is proposed:

March 1, 2002	Submit Application
May 1, 2002	Begin Negotiation of Contract
September 17, 2002	Yuba City Council approves Contract
October 1, 2002	Contract executed
January 21, 2003	Yuba City Council approves contract for purchase of meters
February 19, 2003	Yuba City Council approves meter installation contract
October 30, 2004	Contractor completes meter installation

Based on the Yuba City metering program, it is estimated that residential meter installation cost is \$400 per meter. This cost includes location of the service, hand digging, installation of a meter, meter box, restoration of property. Due to customer service locations, some meters will require less labor and some more. For example, some customer service locations are under concrete driveways, requiring significantly more work, others are simply located in unlandscaped property. The above cost is based on an average installation. This project will require two construction seasons to install the meters. Upon further study, evaluation, and discussion with installation contractors, the schedule may be able to be accelerated. A final schedule may result in completion in one construction season.

Project success will be easily monitored based on water production at the well sites. There may be some time required for customers to modify their water usage based on the new commodity rate billing system. Yuba City would most likely allow customers to have meters read, but not billed on metered rate for several months in order to allow customers an opportunity to reduce water consumption. An education process would take place through the use of bill inserts, and public educational meetings.

Due to the lack of current individual metering, it will not be possible to measure changes with individual customer patterns of water use. The existing groundwater service area consists of four distinct and separate pressure zones. Individual pressure zone water usage can be measured and reductions determined. Once individual meters are installed and several months or years of data are collected, customer use patterns can be determined. The existing computerized billing and data acquisition system is capable of preparing many different types of reports.

The existing billing system prints on individual bills the quantity of water used by metered customers in hundreds of cubic feet per month and average gallons per day during current billing period, and billing period one year previous. Yuba City has determined that customers are better able to understand usage in gallons per day, when compared to the billing commodity rate of hundreds of cubic feet per month. Customers will be able to utilize this information to monitor water usage and comparisons from month to month and year to year. The existing billing system is also capable of providing listing of the largest customer usage by meter size. This can be utilized to target certain customers with higher than average usage for water conservation educational information or personal contact.

Plans and specifications for this project will follow Yuba City standard for water meter installation.

C. Qualifications of Applicant

The City of Yuba City owns and operates a 20 million gallon per day surface water treatment plant, and a ground water system consisting of 11 well sites and three ground water treatment plants, and all components of the water distribution system. The department also is responsible for wastewater collection and treatment. There are a total of approximately 13,500 service connections. The department annual budget for fiscal year 2001/02 is nearly \$13,000,000, with a staff of 49 highly trained employees. The department has recently implemented several capital improvement projects totaling over \$16,000,000.

The Utilities Director, Bill Lewis, will oversee this project. A resume for Mr. Lewis is attached. Construction inspection and administration will be overseen by Yuba City staff, or qualified outside consultant staff.

D. Benefits and Costs

It is estimated that a fully installed remote read water meter is \$400 per unit. This includes the excavation, cost of meter, meter box, shut off valves, incidentals, restoration of area, and labor. Overhead costs for inspection and contract administration are five percent for a total of \$420 per installed meter. More detailed cost estimates can be prepared once the project is competitively bid for materials and installation. Based on comparisons between unmetered groundwater customers and metered surface water customers, it is estimated that a thirty percent reduction in water use will be recognized, saving approximately 1085 acre feet of water.

It is anticipated that this project can proceed with a negative or mitigated negative declaration. An environmental review will take place prior to initiating the project.

At the present time, these customers are all served with groundwater supply. This water is relatively hard, in some cases high in iron, manganese, and nitrates. Several of the wells do not meet the new arsenic standard of 10 mg/l. The most likely scenario for resolving these water quality issues is conversion from groundwater supply to surface water supply. The water metering program will result in less capital construction costs at the Yuba City surface water treatment plant. It is estimated that 1085 acre-feet, 0.97 million gallons per day, would be saved on an annual basis. The Yuba City 1999 Water Rate and Connection Charge Study estimated that capital improvements for expansion of the surface water treatment plant cost \$3.2M per million gallons per day of capacity. Bartle Wells and Associates completed this report under the direction of Yuba City staff. The report evaluated existing value of the water system, future capital requirements, share of existing facilities costs, and other similar costs.

When the existing groundwater customers are converted to surface water, it is estimated that the water plant expansion cost would be \$3,200,000 per million gallons per day of capacity. This project is estimated to save 0.97 mgd, resulting in a benefit cost ratio of approximately 2.0. The benefit cost ratio will be higher when decreased operational cost are included.

Cost Sharing: At this time, Yuba City is not proposing to provide partial funding of the project but is willing to discuss cost sharing options. If cost sharing were required, a surcharge would be placed on unmetered customer water rates. The surcharge would be used to recover the Yuba City cost share portion.

E. Public Outreach

The groundwater service area essentially consists of residential water customers. Public outreach will be performed through local meetings, educational flyers, and public hearings. The larger water users, such as schools, will be contacted separately for their input. As with any water metering program, there is bound to be some controversy. A fully public process will be utilized for the implementation of any water metering program. Water metering is always a controversial subject. It is the intent to utilize a public educational process. Yuba City has found that once the process is explained, customers understand. This is particularly true of customers who believe they do not waste water and have to pay for those that do.

WILLIAM P. LEWIS

Education and Registrations

M.S., Civil Engineering 1985, CSU Sacramento
B.S., Biology, Minor: Chemistry, 1976, CSU San Diego
California Professional Civil Engineer, 40879
Grade V Wastewater Treatment Plant Operator, 3950

Work Experience

4/97 - Present

Employer: City of Yuba City

Job Title: Utilities Director

I oversee all City water and sewage treatment programs. Both water and sewer plants are undergoing significant upgrades and improvements. I am responsible for serving as Chief Engineer and Project Manager coordinating design and construction consultants. I am responsible for all administration and management of both wastewater and water treatment divisions. I supervise a staff of 30, and am ultimately responsible for budget preparation, monitoring and control.

7/91 - 4/97

Employer: County of Sacramento

Job Title: Senior Civil Engineer

Project Engineer at Sacramento Regional Wastewater Treatment Plant. I acted as the owner's representative for all construction activity at the facility. During my tenure, 21 capital improvement projects worth over \$160 million dollars were either completed or under construction.

I supervised a professional team of twelve direct design consultants, prepared and monitored budget, and directed the assignments of staff outside my team.

9/86 - 7/91

Employer: County of Sacramento

Job Title: Associate Civil Engineer

Plant Process Control Engineer at 150 mgd oxygen activated sludge SRWTP. I was responsible for all day-to-day process activities, determined and set plant process set points, prepared monthly NPDES

report, coordinated all construction activities with the operating facility, prepared shutdown plans, facilitated contractor access, worked with the Resident Engineer and Project Engineer, and reviewed plans and specifications for constructibility.

I indirectly supervised a staff of over 125 people including plant operators, laboratory and light maintenance.

1/85 - 9/86

Employer: County of Sacramento

Job Title: Assistant Civil Engineer

I worked in the Plant Engineering section at SRWTP doing small design projects, support of Operations and Maintenance units. Prepared plans and specifications. Hydraulic modeling of SRWTP.

1/79 - 1/85

Employer: County of Sacramento

Job Title: Treatment Plant Operator I through IV

During this time period I promoted from TPO I to TPO IV. I worked at 8 different wastewater treatment plants ranging in size from 0.7 mgd to the 150 mgd SRWTP. As a TPO IV, I was a shift supervisor for a crew of 5.

Organizations

American Water Works Association
Water Environment Federation
California Water Environment Association

Training

Several managers and supervisorial seminars;
Various construction seminars including: California Construction Law, Mitigating Claims, and Construction Partnering; Confined Space, Total Quality Management